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FIG. 1A

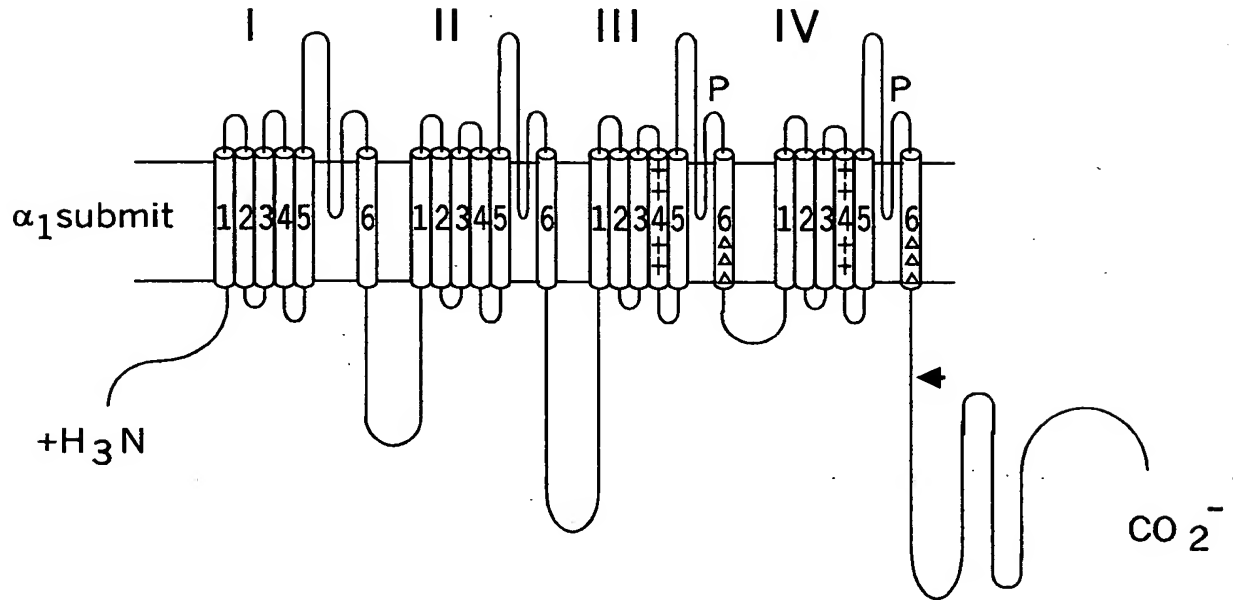


FIG. 1B

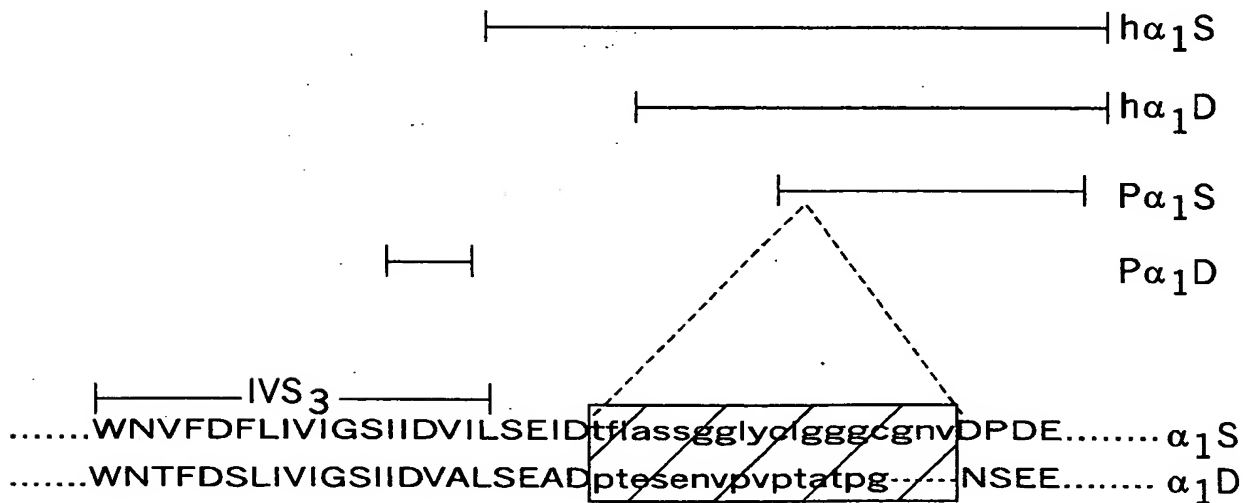


FIG. 1C

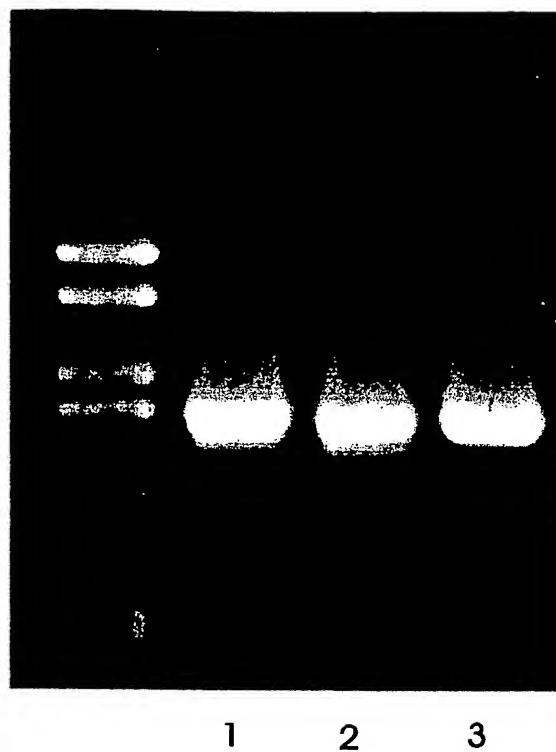


FIG. 1D

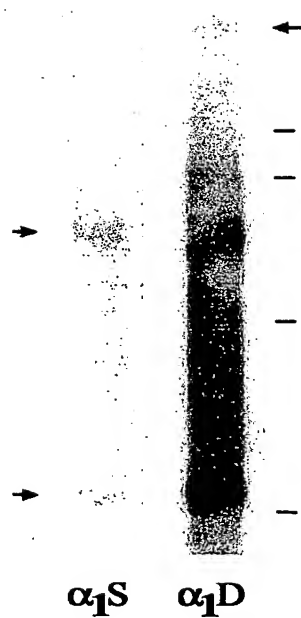


FIG. 2A

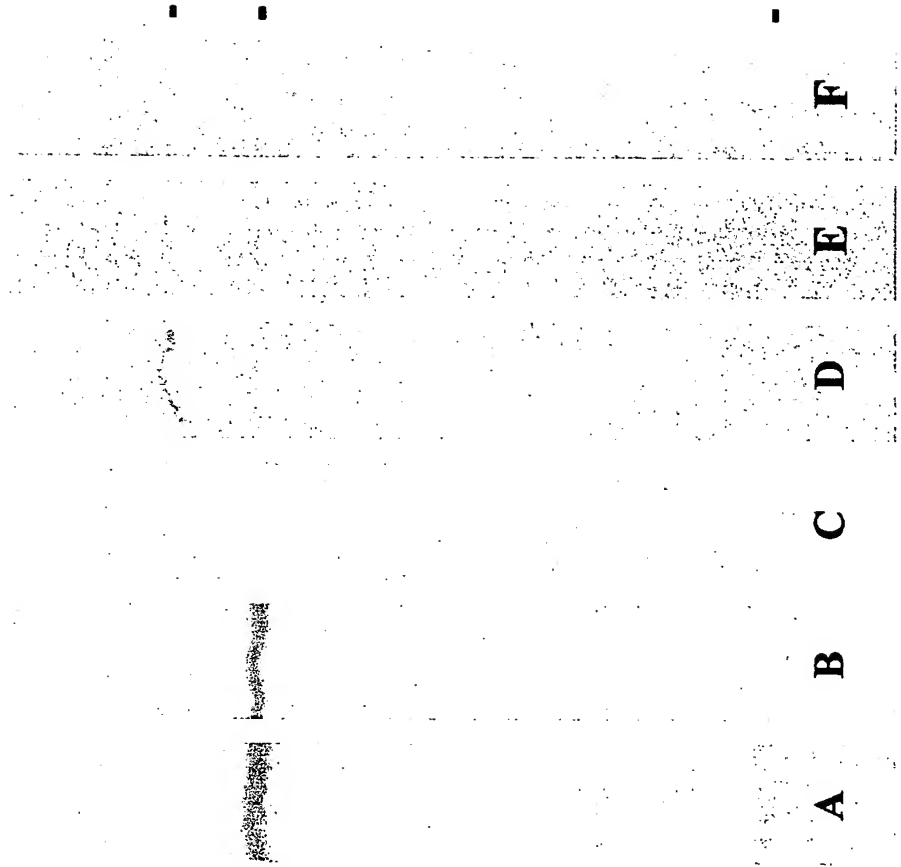
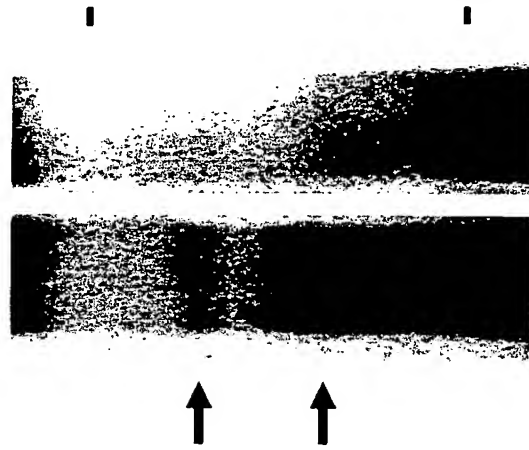


FIG. 2B



>ref|XM 001910.1| Homo sapiens calcium channel, voltage-dependent, L type,
alpha 1S subunit (CACNA1S), mRNA, Length = 6615

Score = 79.8 bits (40), Expect = 1e-12
Identities = 46/48 (95%)
Strand = Plus / Plus

FIG. 3A

Query: 1 ctgattgtcatcggcagcatcattgacgtcatcctcagtgagatcgac 48
|||||
Sbjct: 3938 ctgattgtcatcggcagcatcattgacgtcatcctcagtgagatcgac 3985

Score = 622 bits (314), Expect = e-176
Identities = 462/510 (90%), Gaps = 1/510 (0%)
Strand = Plus / Plus

Query: 49 gacccgacgagagtgcgccgcatctccagcgcccttctccgcctgttccgggtcatgagg 108
|||||
Sbjct: 4043 gacccagatgagagtgcgccgcatctccagcgcccttctccgcctgttccgggtcatgagg 4102

Query: 109 ttgatcaagctgctgagccgcgcgagggcggtgcgcacgctgctccggaccttcatcaag 168
|||||
Sbjct: 4103 ctgatcaagctgctgagccggcgagaggagtgcgaaacctcctctgtggacgttcatcaag 4162

Query: 169 tcctccaggccctgacctacgtggctctgctcatcgctcatgctcttcttcatctatgct 228
|||||
Sbjct: 4163 tcctccaggccctacctacgtggctctgctcatcgctcatgctcttcttcatctacgct 4222

FIG. 3B

Query: 229 gtcacggcatgcagatgttttgggaagatcgccatgggtggacgggaacccagataaaaccgg 288
|||||
Sbjct: 4223 gtcacggcatgcagatgttttgggaagatcgccatgggtggacgggaacccaaataaaaccgg 4282

Query: 289 aacaacaatttccagacacctccctcaggctgtgctgctgtctcttcagggtgcgcacagggt 348
|||||
Sbjct: 4283 aacaacaacttccagaccttccacaagctgtgctactgctcttcagggtgtgcaacagggt 4342

Query: 349 gaggcgtggcaggagatcctgctggcctgcaggtaacgggcagctgtgcgaccccgagtca 408
|||||
Sbjct: 4343 gaggcctggcaggagatcctactgacctgcagctatgggaagctgtgtgacccagagtcg 4402

Query: 409 gactacctccctggggaggagtagtatacctgcggcacccgacttgcctactactacttcac 468
|||||
Sbjct: 4403 gactatgccccaggggaggagtagtacacatgtggcaccaacttgcatactactacttcac 4462

Query: 469 agcttctacatgctctgtgccttcctgatcatcaacctcttgcggctgtgatcatggac 528
|||||
Sbjct: 4463 agcttctacatgctctgtgccttcctggatcatcaacctcttgcggctgtgatcatggac 4522

Query: 529 aatttttgactacctcaccc-ggactgggtcc 557
|||||
Sbjct: 4523 aatttttgactacctcacccgggactgggtcc 4552

FIG. 3C

>ref|NM 000069.1| Homo sapiens calcium channel, voltage-dependent, L type,
alpha 1S, subunit (CACNA1S), mRNA, Length = 6160

Score = 79.8 bits (40), Expect = 1e-12
Identities = 46/48 (95%)
Strand = Plus / Plus

Query: 1 ctgattgtcatcggcagcatcattgacgtcatcctcagtgagatcgcac 48
|||||
Sbjct: 3787 ctgattgtcatcggcagcatcattgatgtcatcctcagtgagatcgcac 3834

Score = 622 bits (314), Expect = e-176
Identities = 462/510 (90%), Gaps = 1/510 (0%)
Strand = Plus / Plus

Query: 49 gaccccgacgagagtgcccgcatctccagcgcttcttcgacctgttcgggtcatgagg 108
|||||
Sbjct: 3892 gacccagatgagagtgcccgcatctccagcgcttcttcgacctgttcgggtcatgagg 3951

Query: 109 ttgatcaagctgctgagccgcgagggcgtgcgcacgtgctccgacaccttcatcaag 168
|||||
Sbjct: 3952 ctgatcaagctgctgagccgaggagaggagtcggaaccttctgtggacgttcatcaag 4011

Query: 169 tccttcaggccctgccctacgtggctctgtcatcgatgctcttctcatctatgct 228
|||||
Sbjct: 4012 tccttcaggccctaccctacgtggctctgtcatcgatgctcttctcatctatgct 4071

FIG. 3D

Query: 229 gtcacggcatgcagatgtttgggaagatgcccatgggtggacggaacccagataaacccgg 288
|||||
Sbjct: 4072 gtcacggcatgcagatgtttgggaagatgcccttgggtggaccccaataaacccgg 4131
|||||

Query: 289 aacaacaatttccagaccttccctcaggctgtgctgctcttccagggtgcgccacgggt 348
|||||
Sbjct: 4132 aacaacaatttccagaccttcccaagaagtgtgctactgctcttcagggtgtgcaacagggt 4191
|||||

Query: 349 gaggcgtggcaggagatcctgctggcctgcaggtaacgggcagctgtgcgaccccgagtca 408
|||||
Sbjct: 4192 gaggcctggcaggagatcctactgctggcctgcagctatgggaagctgtgtgacccagagtcg 4251
|||||

Query: 409 gactacctccctggggaggaggtatacctgcggcacccgacttccgcctactactacttcac 468
|||||
Sbjct: 4252 gactatgccccaggggaggaggtacacatgtggcaccaacttctgcatactactacttcac 4311
|||||

Query: 469 agcttctacatgctctgtgccttccctgatcatcaacctcttctgtggctgtgatcatggac 528
|||||
Sbjct: 4312 agcttctacatgctctgtgccttccctgatcatcaacctcttctgtggctgtgatcatggac 4371
|||||

Query: 529 aattttgactacctcaccc-ggactgggtcc 557
|||||
Sbjct: 4372 aattttgactacctcacccgggactgggtcc 4401
|||||

FIG. 3E

>gb|L33798.1|HUMCACNLA Human dihydropyridine-sensitive L-type calcium channel
alpha-1 subunit (CACN1A3) mRNA, complete cds, Length = 6160

Score = 79.8 bits (40), Expect = 1e-12
Identities = 46/48 (95%)
Strand = Plus / Plus

Query: 1 ctgattgtcatcggcagcatcattgacgtcatcctcagtgagatcgac 48
|||||
Sbjct: 3787 ctgattgtcatcggcagcatcattgacgtcatcctcagtgagatcgac 3834

Score = 622 bits (314), Expect = e-176
Identities = 462/510 (90%), Gaps = 1/510 (0%)
Strand = Plus / Plus

Query: 49 gacccgacgagagtgcccgcatctccagcgcttcttccgcctgttccgggtcatgagg 108
|||||
Sbjct: 3892 gacccagatgagagtgcccgcatctccagcgcttcttccgcctgttccgtgtcatgagg 3951

Query: 109 ttgatcaagctgtgagccgcccagggcggtgcgcacgctgtccggaccttcatcaag 168
|||||
Sbjct: 3952 ctgatcaagctgtgagccgcccagggcagaaggagtgcgaaccttcttggacgttcatcaag 4011

Query: 169 tccctccaggccctgccctacgtggctctgctcatcgctctcttcttcatctatgct 228
|||||
Sbjct: 4012 tccctccaggccctaccctacgtggctctgctcatcgctcttcttcatctacgct 4071
|||||

Query: 229 gtcacggcatgcagatgtttgggaagatgcccatggcggacggaaacccagataaaacccg 288
|||||
Sbjct: 4072 gtcacggcatgcagatgtttgggaagatgccctggatgggaccccaataaaacccg 4131
|||||

Query: 289 aacaacaatttccagaccttccctcaggctgtgctgctcttccaggcgcacagggc 348
|||||
Sbjct: 4132 aacaacaacttccagaccttcccacaagctgtgctactgctcttccaggcgtgcaacaggt 4191
|||||

Query: 349 gaggcgtggcaggagatccctgctggcctgcaggcagctgtgcgaccccgagtca 408
|||||
Sbjct: 4192 gaggcctggcaggagatccctactggcctgcagctatgggaagctgtgtgacccagagtcg 4251
|||||

Query: 409 gactacctccctggggaggaggtataacctggcgccacccgacttcgcctactactattcatc 468
|||||
Sbjct: 4252 gacratgccccaggggaggaggtacacatgtggcaccaactttgcatactactattcatc 4311
|||||

Query: 469 agcttctacatgctctgtgccttccctgatcatcaacctcttctgtggctgtgatcatggac 528
|||||
Sbjct: 4312 agcttctacatgctctgtgccttccctgatcatcaacctcttctgtggctgtgatcatggac 4371
|||||

Query: 529 aattttgactacctcaccctggactgggtcc 557
|||||
Sbjct: 4372 aattttgactacctcaccctggactgggtcc 4401
|||||

FIG. 3F

Score = 107 bits (54), Expect = 5e-21
Identities = 63/66 (95%)
Strand = Plus / Plus

```

Query: 61  atcgac 66
          |||||
Sbjct: 3980 atcgac 3985

```

```

Query: 67      gacccgacgagtgcccgcatctccagcgccctcttccgcctgttccgggtcatgagg 126
              ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Sbjct: 4043    gaccagatgagtgcccgcatctccagcgccctcttccgcctgttccgggtcatgagg 4102

```

Query: 127 ttgatcaagctgctgagccgcgcgagggcgctgcgcacgctgctctggaccttcattcaag 186
|||||
Sbjct: 4103 ctgatcaagctgctgagccgggcagaaaggagtgcgaaacctctctgctggacggtcatcaag 4162

FIG. 4B

```
Query: 187  ccctccaggccctgccctacgtggctctgctcatcgctcatgctctcttcatctatgct 246
           |||||
Sbjct: 4163  ccctccaggccctaccctacgtggctctgctcatcgctcatgctctcttcatctacgct 4222

Query: 247  gtcatacggcatgcagatgcttctgggaagatcgccatgggtggacgggaacccagataaacccgg 306
           |||||
Sbjct: 4223  gtcatacggcatgcagatgcttctgggaagatcgccctgggtggacgggaacccaaataaacccgg 4282

Query: 307  aacaacaatttccagacccctccctcaggctgtgctgctgctctcttcagggtgcgccacgggt 366
           |||||
Sbjct: 4283  aacaacaatttccagacccctcccaaacgctgtgctactgctctcttcagggtgtgcaaacaggct 4342

Query: 367  gaggcgtggcaggagatccctgctggcctgcagggtacgggcagctgtgcgacccccgagtca 426
           |||||
Sbjct: 4343  gaggcctggcaggagatccctactggcctgcagctatgggaagctgtgtgaccagagtcg 4402

Query: 427  gactacctccctggggaggagtatacctgcggcacccgacttcgcctactactacttcctc 486
           |||||
Sbjct: 4403  gactatgccccaggggaggagtacacatgtggcaccaactttgcatactactacttcctc 4462

Query: 487  agcttctcatatg 498
           |||||
Sbjct: 4463  agcttctcatatg 4474
```

FIG. 5A

>ref|XM_003238.1| Homo sapiens calcium channel, voltage-dependent, L type,
alpha 1D subunit (CACNA1D), mRNA, Length = 7362

Score = 89.7 bits (45), Expect = 1e-15
Identities = 45/45 (100%)
Strand = Plus / Plus

Query: 1 ctcacgcgtaatcggcagcattatagacgtggccctcagcgaagca 45
|||||
Sbjct: 4171 ctcacgcgtaatcggcagcattatagacgtggccctcagcgaagca 4215

Score = 946 bits (477), Expect = 0.0
Identities = 496/500 (99%), Gaps = 2/500 (0%)
Strand = Plus / Plus

Query: 49 aactctgaagagagcaatagaatctccatcaccttttccgctcttttccgagtgatgcga 108
|||||
Sbjct: 4264 aactctgaagagagcaatagaatctccatcaccttttccgctcttttccgagtgatgcga 4323

Query: 109 ttggtgaagcttctcagcaggggggaaggcatccggacattgctgtggacttttattaag: 168
|||||
Sbjct: 4324 ttggtgaagcttctcagcaggggggaaggcatccggacattgctgtggacttttattaag 4383

Query: 169 tcctttcaggcgctcccgtatgtggccctcctcatagccatgctgttcttcatctatgcg 228
|||||
Sbjct: 4384 tcctttcaggcgctcccgtatgtggccctcctcatagccatgctgttcttcatctatgcg 4443

FIG. 5B

Query: 229 gtcattggcatgcagatgtttgggaaagtggccatgagagataacaaccagatcaatagg 288
 |||||
 Sbjct: 444 gtcattggcatgcagatgtttgggaaagtggccatgagagataacaaccagatcaatagg 4503

Query: 289 aacaataacttccagacgtttcccccaggcgggtgctgcttcttcagggtgtgcaacagggt 348
 |||||
 Sbjct: 4504 aacaataacttccagacgtttcccccaggcgggtgctgcttcttcagggtgtgcaacagggt 4563

Query: 349 gaggcctggcaggagatcatgctggcctgtctcccagggaagctctgtgacccctgagtcca 408
 |||||
 Sbjct: 4564 gaggcctggcaggagatcatgctggcctgtctcccagggaagctctgtgacccctgagtcca 4623

Query: 409 gattacaaccttcggggaggaggtatcacatgtgggagcaactttgccattgtctatttcattc 468
 |||||
 Sbjct: 4624 gattacaaccttcggggaggaggtatcacatgtgggagcaactttgccattgtctatttcattc 4683

Query: 469 agnttttacatgctctgtgcatttcttga-cattcaactctgtttgggtggctgtccatcaggga 527
 |||||
 Sbjct: 4684 agtttttacatgctctgtgcatttcttga-cattcaactctgttt-gtgggtgtccatcaggga 4742

Query: 528 taatttcgactatctgaccc 547
 |||||
 Sbjct: 4743 taatttcgactatctgaccc 4762

FIG. 5C

>ref|NM_000720.1| Homo sapiens calcium channel, voltage-dependent, L type,
alpha 1D subunit (CACNA1D), mRNA, Length = 7193

Score = 87.7 bits (44), Expect = 5e-15
Identities = 44/44 (100%)
Strand = Plus / Plus

Query: 1 ctcacgtgaatcggcagcattatagacgtggccctcagcgaagc 44
|||||
Sbjct: 4001 ctcacgtgaatcggcagcattatagacgtggccctcagcgaagc 4044

Score = 946 bits (477), Expect = 0.0
Identities = 496/500 (99%), Gaps = 2/500 (0%)
Strand = Plus / Plus

Query: 49 aactctgaagagagcaatagaatctccatcacctttttccgctctttccgagtgatgcga 108
|||||
Sbjct: 4094 aactctgaagagagcaatagaatctccatcacctttttccgctctttccgagtgatgcga 4153

Query: 109 ttggtgaagctttctcagcagggggaaggcatccggacattgctgtggacttttattaaag 168
|||||
Sbjct: 4154 ttggtgaagctttctcagcagggggaaggcatccggacattgctgtggacttttattaaag 4213

Query: 169 tccttttcaggcgctcccgtatgtggccctcctcatagccatgctgttcttcatctatgcg 228
|||||
Sbjct: 4214 tccttttcaggcgctcccgtatgtggccctcctcatagccatgctgttcttcatctatgcg 4273

FIG. 5D

```

Query: 229  gtcatcggcatgcagatgcttcgggaaagtgcctagagataacaaccagatcaatagg 288
            |||
Sbjct: 4274  gtcatcggcatgcagatgcttcgggaaagtgcctagagataacaaccagatcaatagg 4333

```

Query: 289 aacaataactccagacgttccccaggcggctgctgctcttcaggctgctgcaacaggc 348
|||||
Sbjct: 4334 aacaataactccagacgttccccaggcggctgctgctcttcaggctgctgcaacaggc 4393

```

Query: 349  gaggccctggcaggagatcatgctggcctgtctcccagggaagctctgtgaccctgagtc 408
          |||||
Sbjct: 4394  gaggccctggcaggagatcatgctggcctgtctcccagggaagctctgtgaccctgagtc 4453

```

Query: 409 gattacaacctcggggaggagtatacatgtgggagcaactttgccattgtctatatttcac 468
||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||

Sbjct: 4454 gattacaaccgccggggaggagtatacatgtgggagcaactttgccattgtctatatttcac 4513

```

Query: 469  agnttttaccatgctctctgtgcatttctga-catcaatctgttttggcggcgtcatcattgga 527
           || ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Sbjct: 4514  agcttttaccatgctctctgtgcatttctgatcatcaatctgtttt-gcggcgtcatcattgga 4572

```

```

Query: 528   taatttcgactatctgacc 547
          |||||
Sbjct: 4573  taatttcgactatctgacc 4592

```


FIG. 5E

>gb|M83566.1|HUMCACH1A Human neuroendocrine/beta-cell-type calcium channel
alpha-1 subunit mRNA, complete cds, Length = 7193

Score = 87.7 bits (44), Expect = 5e-15
Identities = 44/44 (100%)
Strand = Plus / Plus

Query: 1 ctcacgtaatcggcagcattatagacgtggccctcagcgaagc 44
|||||
Sbjct: 4001 ctcacgtaatcggcagcattatagacgtggccctcagcgaagc 4044

Score = 946 bits (477), Expect = 0.0
Identities = 496/500 (99%), Gaps = 2/500 (0%)
Strand = Plus / Plus

Query: 49 aactctgaagagagcaatagaatctccatcacctttttccgctctttccgagtgatgcga 108
|||||
Sbjct: 4094 aactctgaagagagcaatagaatctccatcacctttttccgctctttccgagtgatgcga 4153

Query: 109 ttgggtgaagcttctcagcaggggggaaggcatccggacattgctgtggacttttatttaag 168
|||||
Sbjct: 4154 ttgggtgaagcttctcagcaggggggaaggcatccggacattgctgtggacttttatttaag 4213

```
Query: 169  tcctttcaggcgctcccgtatgtggccctcctcatagccatgctgttcttctcatctatgcg 228
            |||
Sbjct: 4214  tcctttcaggcgctcccgtatgtggccctcctcatagccatgctgttcttctcatctatgcg 4273

Query: 229  gtcattggcatgcagatgttttgggaaagtggccatgagagataaacaaccagatcaatagg 288
            |||
Sbjct: 4274  gtcattggcatgcagatgttttgggaaagtggccatgagagataaacaaccagatcaatagg 4333

Query: 289  aacaataacttccagacgttttccccaggcgggtgctgcttcttcagggtgtgcaacaggc 348
            |||
Sbjct: 4334  aacaataacttccagacgttttccccaggcgggtgctgcttcttcagggtgtgcaacaggc 4393

Query: 349  gaggcctggcaggagatcatgctggcctgtctcccagggaagctctgtgacccctgagtca 408
            |||
Sbjct: 4394  gaggcctggcaggagatcatgctggcctgtctcccagggaagctctgtgacccctgagtca 4453

Query: 409  gattacaacctcggggaggagtatacatgtgggagcaactttgccattgtctatttccatc 468
            |||
Sbjct: 4454  gattacaacctcggggaggagtatacatgtgggagcaactttgccattgtctatttccatc 4513

Query: 469  agnttttacatgctctgtgcatttctga-catcaatctgttttgggtggctgtcatcatgga 527
            ||
Sbjct: 4514  agtttttacatgctctgtgcatttctgatcatcaatctgttt-gtggctgtcatcatgga 4572

Query: 528  taatttcgactatctgaccc 547
            |||
Sbjct: 4573  taatttcgactatctgaccc 4592
```

FIG. 5F

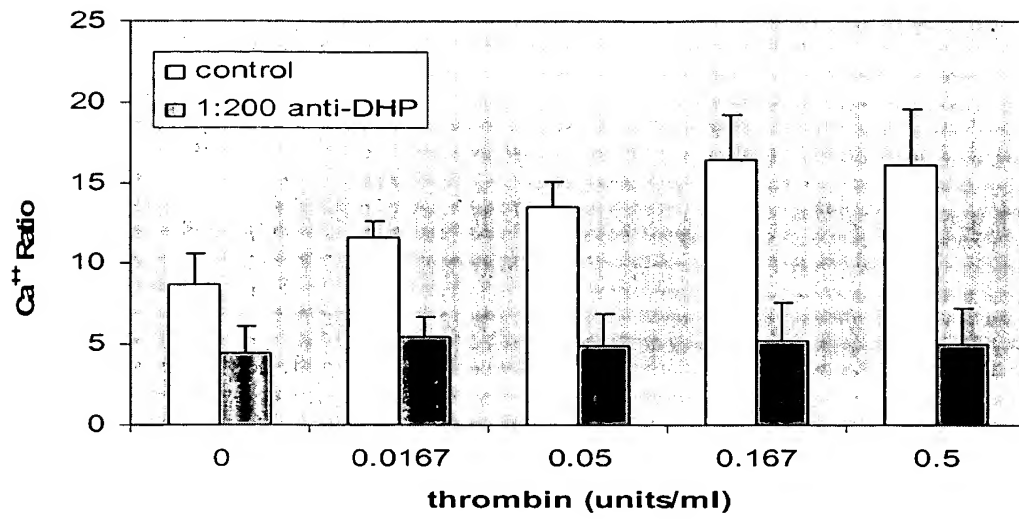


Figure 6

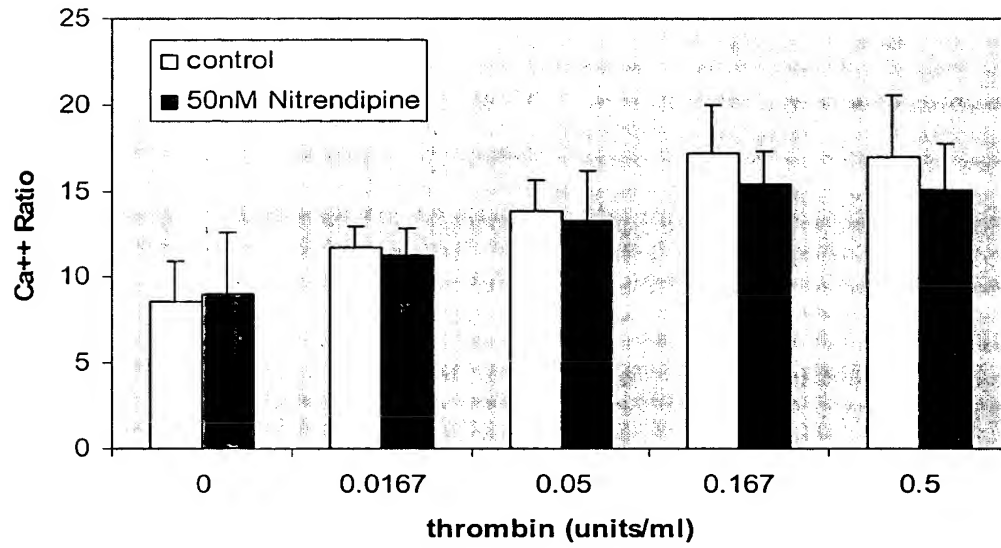


Figure 7

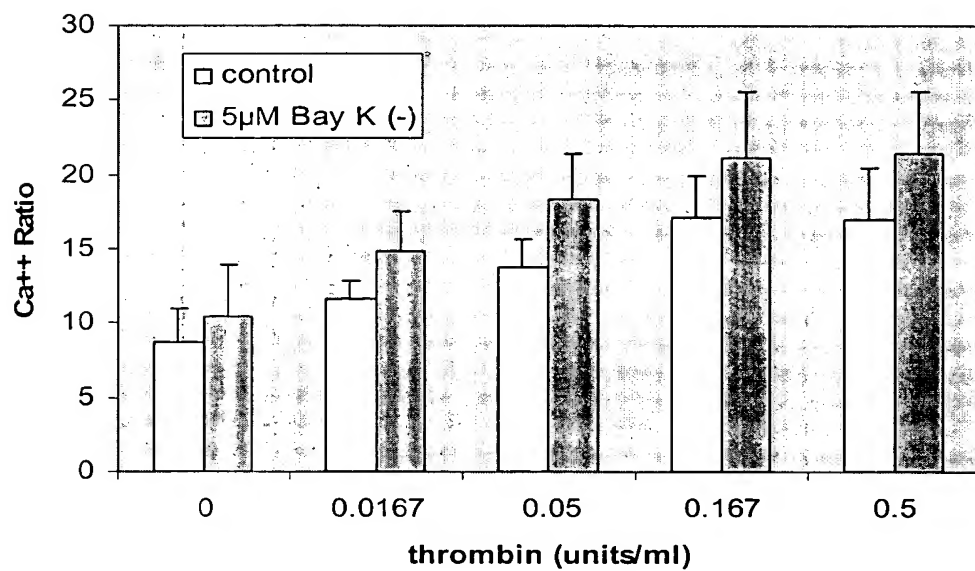


Figure 8